

# High Technology

## Overview

Utah's technology sector continued to lose jobs during 2003, following a decline that began in 2001. From January 2001 through June 2003, Utah's technology sector lost 9,929 jobs, a drop of about 15%. Companies that engage in computer system design and computer and peripheral equipment manufacturers have been hardest hit, posting job losses totaling 5,500. Other industries that posted job losses of more than 100 workers include semiconductor and electronic component manufacturers and aerospace products manufacturers. Only three industries (medical equipment and supply, engineering services, and scientific research) reported job growth of more than 100 workers.

## 2003 Summary

The downturn in Utah's technology sector which began in January 2001 continued through the second quarter of 2003. Approximately 56,400 people are employed in the technology sector, or roughly 5.3% of the state's nonfarm workers. Over the past two years, this sector has experienced deep and persistent contractions. Since January 2001, Utah's technology sector has lost 9,929 jobs, a drop of almost 15.0%. Employment declines continued during the first six months of 2003 (the most recent data available).

Preliminary data for 2003 show that the technology sector may have lost an additional 1,175 jobs during the first six months of 2003. However, the rate at which technology jobs are declining appears to be slowing. Average employment in the technology sector for the first six months of 2003 is just 3.3% lower than average employment during the same period last year. Nonetheless, Utah has yet to emerge from its current economic slump and employment projections indicate that the state will post its second year of job losses. Expectations are that job losses in the technology sector will follow suit.

## Major Industry Segment Analysis

Utah's technology sector is highly concentrated in three industry segments--computer systems design, medical equipment, and aerospace. When combined, employment in these industry segments accounts for about 43% of all technology employment in Utah. Other important, but smaller, segments of the state's technology base include software, engineering services, and companies involved in scientific research.

A comparison of year-over average annual employment for the first six months of 2003 and 2002 shows that almost every industry segment posted job losses. The largest losses were in the manufacturing sectors of semiconductor and electronic components and aerospace products. More than 1,100 jobs have been lost in these two industries alone. Other industries that posted losses of more than 100 workers included computer and peripheral equipment, wireless telecommunications carriers, internet service providers, computer systems design, and scientific research. The only industry that reported any notable employment gain was engineering services with a net gain of 208 jobs.

## Computer Systems Design

The largest technology segment (as measured by employment) is computer systems design, which accounts for 20% of the state's technology workers, an average of about 10,600 people. This industry includes companies that provide expertise in the field of information technologies and is characterized by a large number of small firms; approximately 1,300 companies make up this industry segment. The

largest employers include 3M Company and Unisys. Both companies employ fewer than 500 people.

Employment in this sector, averaged over the first six months of 2003 (10,642), is slightly higher than average annual employment reported for 2002 (10,521); however, the stability of the sector, as conveyed by averages, may be misleading. After spiking slightly in January of 2003 at 10,826, employment in the industry has declined to its present levels. Further, several companies that intended to increase their Utah workforce base in 2003 have either put their plans on hold, eliminated positions, or anticipate layoffs early in 2004.

## Medical Equipment

The medical equipment manufacturing sector posted very modest gains during the first six months of 2003 with an average employment base of 7,644 (an increase of 69 workers over the 2002 annual average). This industry has been an important and relatively stable component of the technology sector for many years. It helps that many of these companies produce products that are in high demand and meet the needs of aging baby boomers.

Of the 10 largest technology companies in Utah, five are medical equipment and supply manufacturers. One of these companies, Merit Medical based in South Jordan, has announced plans to increase its Utah work force in the coming year. The company was also ranked on the 2003 Forbes magazine list of "200 Best Small Companies in America." On a more sobering note, Kimberly-Clark Ballard Medical announced earlier this year that it will transfer between 150 and 200 jobs from its Draper facility to a Mexico plant over the next three-year period. The company now has about 850 workers at its Draper facility.

## Aerospace Products

Utah's aerospace industry has undergone a significant transformation over the past decade. Most of Utah's aerospace companies downsized during the late 1990s by restructuring their core business activities. Once the largest component of the technology sector, aerospace companies now employ about 6,300 people. Within this industry, the largest company is ATK Alliant Techsystems. Formed in 1990s when Honeywell spun off its defense business, ATK has grown to become a major aerospace contractor in Utah. In 1995, ATK purchased Hercules Aerospace Company, a Utah company with longstanding ties to the defense industry. In 2001, ATK acquired Thiokol Propulsion, a Utah manufacturer of solid propellant rocket motors. At present, ATK's aerospace divisions in Utah employ about 4,000 people.

## Significant Issues

The availability of venture capital is essential to growing and maintaining a strong and viable technology community. The bursting of the technology bubble stanching the flow of venture money into Utah. In 2002, according to the *MoneyTree Survey* published by PricewaterhouseCoopers, about \$95 million was invested in Utah technology companies in 2002, a substantial drop from the \$706 million invested in 2000. The capital tightening has had a profound affect on promising new technologies and the companies developing them. Lack of venture capital has caused technology companies, especially smaller fledgling companies, to downsize, shut down, or sell out prematurely and below market value because they do not have the capital to move to the next level.

Finally, the business life cycle is alive and well and impacts technology and nontechnology companies alike. Well-managed businesses with tangible goals and expectations are much more likely to weather economic downturns than their mismanaged counterparts. Many casualties of the technology bust were companies with poorly defined business strategies or who lacked viable products. In the short run, strong markets, like those experienced during the late 1990s can compensate for poor management; however, over the long term, success is more likely for those companies with solid management and that have the ability to respond quickly to changing economic conditions.

### Conclusion

The halcyon days of the technology sector (the fast pace of new technology startups, billion dollar IPO's, and dizzying returns on investments) will most likely not be repeated. However, the development of new products and technologies is still the backbone of Utah's economic growth. While the sector will rebound as the overall economy improves, it may take several years before employment reaches the peak levels enjoyed just three years ago.

**Table 78**  
**Technology Employment by Detailed Industry Annual Averages**

Sector	NAICS Code	Average Annual Employment			2001-2002 net change
		2000	2001	2002	
In-Vitro Diagnostic Substances	325413	18	22	23	1
Optical Instrument and Lens Manufacturing	333314	174	170	158	-12
Computer and Peripheral Equipment	3341	3,575	3,181	1,540	-1,641
Communication Equipment	3342	2,286	2,393	2,370	-23
Semiconductor and Electronic Components	3344	4,110	4,215	3,315	-900
Navigational, Measuring and Electromedical Products	3345	3,211	3,242	3,109	-133
Carbon and Graphite Product Manufacturing	335991	398	368	341	-27
Aerospace Products and Parts Manufacturing	3364	7,465	7,201	6,634	-567
Medical Equipment and Supplies	3391	7,530	7,479	7,575	96
Software	5112	5,819	5,348	4,845	-503
Motion Picture and Video Production	51211	2,685	2,643	2,478	-165
Post Production Services	51219	42	42	49	7
Wireless Telecommunications Carriers	5172	1,480	1,179	879	-300
Satellite Telecommunications	5174	100	96	90	-6
Other Telecommunications	5179	25	98	119	21
Internet Service Providers	5181	3,476	3,276	3,016	-260
Engineering Services	54133	5,502	5,767	5,579	-188
Testing Laboratories	54138	1,182	1,214	1,152	-62
Computer Systems Design	5415	13,028	12,491	10,521	-1,970
Scientific Research	54171	2,847	3,340	3,815	475
Total		64,953	63,765	57,608	-6,157

Note: NAICS stands for North American Industry Classification System.  
Source: Utah Department of Workforce Services

Table 79

## Technology Employment by Detailed Industry: Comparison of 2002 and Six Month Average of 2003

Sector	NAICS Code	Average Employment		2002-2003 net change
		2002	2003	
In-Vitro Diagnostic Substances	325413	23	23	0
Optical Instrument and Lens Manufacturing	333314	161	152	-9
Computer and Peripheral Equipment	3341	1,623	1,337	-286
Communication Equipment	3342	2,370	2,377	7
Semiconductor and Electronic Components	3344	3,534	2,870	-664
Navigational, Measuring and Electromedical Products	3345	3,132	3,186	54
Carbon and Graphite Product Manufacturing	335991	347	337	-10
Aerospace Products and Parts Manufacturing	3364	6,829	6,343	-486
Medical Equipment and Supplies	3391	7,604	7,644	40
Software	5112	4,893	4,874	-19
Motion Picture and Video Production	51211	2,345	2,284	-61
Post Production Services	51219	78	32	-46
Wireless Telecommunications Carriers	5172	929	700	-229
Satellite Telecommunications	5174	94	86	-8
Other Telecommunications	5179	114	96	-18
Internet Service Providers	5181	3,052	2,939	-113
Engineering Services	54133	5,542	5,750	208
Testing Laboratories	54138	1,137	1,144	7
Computer Systems Design	5415	10,809	10,642	-167
Scientific Research	54171	3,744	3,621	-123
Total		58,360	56,437	-1,923

Note: NAICS stands for North American Industry Classification System.

Source: Utah Department of Workforce Services

Table 80

## Technology Employment by Detail Industry: Actual January 2001 and June 2003

Sector	NAICS Code	Actual Employment		2002-2003 net change
		January 2001	June 2003	
In-Vitro Diagnostic Substances	325413	17	23	6
Optical Instrument and Lens Manufacturing	333314	186	152	-34
Computer and Peripheral Equipment	3341	3,850	1,337	-2,513
Communication Equipment	3342	2,385	2,377	-8
Semiconductor and Electronic Components	3344	4,651	2,870	-1,781
Navigational, Measuring and Electromedical Products	3345	3,284	3,186	-98
Carbon and Graphite Product Manufacturing	335991	365	337	-28
Aerospace Products and Parts Manufacturing	3364	7,409	6,343	-1,066
Medical Equipment and Supplies	3391	7,409	7,644	235
Software	5112	5,531	4,874	-657
Motion Picture and Video Production	51211	2,459	2,284	-175
Post Production Services	51219	45	32	-13
Wireless Telecommunications Carriers	5172	1,380	700	-680
Satellite Telecommunications	5174	87	86	-1
Other Telecommunications	5179	91	96	5
Internet Service Providers	5181	3,708	2,939	-769
Engineering Services	54133	5,611	5,750	139
Testing Laboratories	54138	1,189	1,144	-45
Computer Systems Design	5415	13,626	10,642	-2,984
Scientific Research	54171	3,083	3,621	538
Total		66,366	56,437	-9,929

Note: NAICS stands for North American Industry Classification System.

Source: Utah Department of Workforce Services

